Space Weather Forecast

Issued on Wednesday, 17 November 2021 at 01:02 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Slight chance of G1/Minor Geomagnetic Storms on Day 1 (17th).

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar Activity was very low, with no notable flares in the last 24 hours. There are three small and magnetically simple sunspot regions on the Earth-facing disc, including a recently numbered region which rotated onto the disc early on the 16th. A CME off the southwest limb will be analysed once more data becomes available otherwise no Earth-directed coronal mass ejections (CMEs) were observed.

Solar Wind / Geomagnetic Activity: The solar wind speed has been elevated or strong through the 24 hour period following connection to a fast wind from a coronal hole. Density has been close to average. Total magnetic field strength was moderate soon becoming weak. The important north-south component has mainly been positive (northward) or neutral with no extended negative periods. Geomagnetic activity was Active until 16/0600 UTC, Unsettled through to 16/1200 UTC then Quiet for the remainder of the UTC day.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be mainly very low, with a slight chance of C-class flares from the three sunspot regions.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Solar wind speeds are expected to remain elevated or strong through day 1 (17th Nov) then declining through days 2 to 4. Geomagnetic activity is expected to be mainly Unsettled or Active, with a slight chance of G1/Minor Storms at first on day 1. Unsettled periods are then expected on day 2 (18th), with a chance of Active intervals. Mainly Quiet to Unsettled conditions are then expected from day 3 (19th), with a decreasing chance of Active intervals.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background levels with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2021. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	20	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2021. All Rights Reserved.